Claims 1-35 are cancelled.

36. (new) An electrochemical pattern replication method for production of micro- or nano-structures of an electrically conductive material on a substrate, whereby an etching or plating pattern is replicated, defined by an electrically insulating patterned material, said method comprising the steps of:

using an electrochemical process for transferring said pattern onto the substrate,

dissolving a material at an anodic surface and depositing the material at a cathodic surface, by

placing a master electrode in close contact with the substrate so that the pattern is defined using the master electrode, and

said dissolving and depositing of material being performed in local etching or plating cells being formed in closed or open cavities, delimited by an insulating pattern layer of the master electrode, and the substrate, wherein the master electrode is the anodic surface and the substrate is the cathodic surface and the material being dissolved is a predeposited material on the master electrode in the local plating cells.

37. (new) The method according to claim 36, wherein the substrate is said anodic surface and the master electrode is said cathodic surface and said cavities are local etching cells.

38. (new) The method according to claim 37, further comprising the steps of:

charging the cavities on the master electrode with an electrolyte solution;

compressing the substrate and the master electrode in close contact, thereby creating the local etching cells charged with the electrolyte solution; and

connecting an external voltage between the substrate, which is the anode, and the master electrode, which is the cathode.

39. (new) The method according to claim 36, further comprising the steps of:

predepositing a plating material in the cavities on the master electrode and charging them with an electrolyte solution;

compressing the substrate and the master electrode in close contact, thereby creating the local plating cells charged with the electrolyte solution; and

connecting an external voltage between the substrate, which is the cathode, and the master electrode, which is the anode.

40. (new) The method according to claim 36, wherein a distance between the master electrode and the substrate is determined by the thickness of the insulating pattern layer.

41. (new) The method according to claim 38, further comprising the step of:

cleaning of the master electrode after a number of etching cycles.

42. (new) The method according to claim 41, wherein the cleaning step is an etching process, where deposit material on the master electrode is etched away.

43. (new) The method according to claim 36, wherein a pulsed voltage is applied between the master electrode and the substrate.

44. (new) The method according to claim 43, wherein the frequency is in the range of 2 to 20 kHz.

45. (new) The method according to claim 43, wherein the frequency is 5 kHz.

46. (new) The method according to claim 43, wherein the pulsed voltage is a periodic pulse reverse voltage.

47. (new) The method according to claim 43, wherein the pulsed voltage has complex waveforms.

48. (new) The method according to claim 38, wherein the electrolyte solution has no or less supporting electrolyte and a high concentration of electro active species and/or no chemical oxidation agent.

49. (new) The method according to claim 38, wherein counter ions in the electrolyte solution are exchanged to ones which provide higher solubility.

50. (new) The method according to claim 38, wherein a concentration of electro active ions of 10 to 1200 mM in the electrolyte solution is used and/or that a sequestering agent is used.

51. (new) The method according to claim 50, wherein the sequestering agent is EDTA.

52. (new) The method according to claim 38, wherein an additive system is used in the electrolyte solution, comprising wetting agents, accelerators, suppressors and/or levelers.

53. (new) The method according to claim 38, wherein the electrolyte solution comprises acid copper and the electrolyte has a pH value between 2 and 5.

54. (new) The method according to claim 38, wherein said electrolyte solution is an optimised electrolyte in the local etching cells or the local plating cells.

55. (new) An electrode suitable for an etching or plating process, comprising a counter electrode and a pattern defining structure of an electro chemical etching or plating cell are integrated into a master electrode, wherein the counter electrode is a conducting electrode layer or a flexible conducting foil, and the pattern defining structure is an insulating pattern layer being applied on said counter electrode.

56. (new) The electrode according to claim 55, wherein the counter electrode is inert.

57. (new) The electrode according to claim 55, wherein a flexible elastomer layer is applied on the insulating pattern layer.

58. (new) The electrode according to claim 55, wherein the counter electrode is applied on a mechanical support layer.

59. (new) The electrode according to claim 58, wherein a conductive elastomer layer is applied between the counter electrode and the mechanical support layer.

68. (new) The apparatus according to claim 66, wherein said conducting means for electrical connections is a conducting piece applied on the outer side of the master electrode.

69. (new) The apparatus according to claim 63, wherein the master electrode is fixed in the apparatus by a pressure against a conducting piece, said pressure exerted by the conformable membrane and/or a piston.